IN THE CLAIMS

Please cancel claims 1-10 and add new claims 11-30.

11. A method for producing bores in workpieces of electrically conductive material, in particular injection ports (11) in injection nozzles (10) of fuel injection systems for motor vehicles, the method comprising, removing material in the workpiece forming the counterelectrode in a targeted way by spark erosion by means of an erosion wire (12) forming as electrode,

actively exciting the erosion wire (12) to a defined vibration,

and establishing the form of vibration by targeted variation of the vibration excitation in accordance with the desired bore hole shape.

12. The method of claim 11 wherein the vibration excitation of the erosion wire (12) is performed on one end (122) of the wire.

13. The method of claim 12 wherein the vibration excitation of the erosion wire (12) is performed separately in two orthogonal axes (x, y) located in the same plane, and that to attain the desired form of vibration of the erosion wire (12), the frequencies and the ratio of frequency to amplitude of the two vibration excitations as well as the phase displacement between the two vibration excitations in both orthogonal axes are controlled.

14. The method of claim 13 wherein, to attain a bore hole of circular cross section, the vibration excitations in the two orthogonal axes (x, y) are performed with the same amplitude and with a phase displacement ($\Delta\phi$) of 90°.

15. The method of claim 13 wherein, to create a bore hole of elliptical cross-sectional area, the vibration excitations in the two orthogonal axes (x, y) are performed with different amplitudes and with a phase displacement ($\Delta\phi$) of 90°.

16. An apparatus for performing the method of claim 13 wherein the end (122) of the erosion wire (12) is received in a fastening unit (13),wherein the fastening unit (13) is guided displaceably along two orthogonal axes (x, y) oriented transversely to the longitudinal axis of the erosion wire (12), and wherein two actuators (14, 15) engage the fastening unit (13) for separate oscillating displacement of the fastening unit (13) along the two orthogonal axes (x, y).

17. An apparatus for performing the method of claim 12 wherein the end (122) of the erosion wire (12) is received in a fastening unit (13),wherein the fastening unit (13) is guided displaceably along two orthogonal axes (x, y) oriented transversely to the longitudinal axis of the erosion wire (12), and wherein two actuators (14, 15) engage the fastening unit (13) for separate oscillating displacement of the fastening unit (13) along the two orthogonal axes (x, y).

18. An apparatus for performing the method of claim 13 wherein the end (122) of the erosion wire (12) is received in a fastening unit (13),wherein the fastening unit (13) is guided displaceably along two orthogonal axes (x, y) oriented transversely to the longitudinal axis of the erosion wire (12), and wherein two actuators (14, 15) engage the fastening unit (13) for separate oscillating displacement of the fastening unit (13) along the two orthogonal axes (x, y).

19. The apparatus of claim 16 wherein the actuators (14, 15) include piezoelectric elements (23), which upon application of an alternating voltage undergo a defined change in length in one direction and the other.

20. The apparatus of claim 17 wherein the actuators (14, 15) include piezoelectric elements (23), which upon application of an alternating voltage undergo a defined change in length in one direction and the other.

21. The apparatus of claim 18 wherein the actuators (14, 15) include piezoelectric elements (23), which upon application of an alternating voltage undergo a defined change in length in one direction and the other.

22. The apparatus of claim 19 wherein the actuators (14, 15) are each formed by a piezoelectric stack (17, 18), in which a plurality of piezoelectric elements (23) are disposed in contact with one another in the direction of their change in length.

23. The apparatus of claim 20 wherein the actuators (14, 15) are each formed by a piezoelectric stack (17, 18), in which a plurality of piezoelectric elements (23) are disposed in contact with one another in the direction of their change in length.

24. The apparatus of claim 21 wherein the actuators (14, 15) are each formed by a piezoelectric stack (17, 18), in which a plurality of piezoelectric elements (23) are disposed in contact with one another in the direction of their change in length.

25. The apparatus of claim 16 wherein the actuators (14, 15) are embodied as electromechanical vibration motors.

26. The apparatus of claim 17 wherein the actuators (14, 15) are embodied as electromechanical vibration motors.

27. The apparatus of claim 18 wherein the actuators (14, 15) are embodied as electromechanical vibration motors.

28. The apparatus of claim 16 wherein the actuators (14, 15) are embodied as ultrasonic transmitters.

29. The apparatus of claim 17 wherein the actuators (14, 15) are embodied as ultrasonic transmitters.

30. The apparatus of claim 18 wherein the actuators (14, 15) are embodied as ultrasonic transmitters.